

ABSTRACT

In a transmitting portion of a wireless communication apparatus, hopping pattern generating portions 16 and 17 produce hopping patterns independent from each other and specific to a transmitter. Subcarrier assigning portions 18 and 19 assign transmission symbol sequences to subcarriers 1 to R in accordance with the hopping patterns and produce frequency hopping signals. In a receiving portion of the wireless communication apparatus, a MIMO demodulating portion 37 combines and decomposes a FFT signal and produces a demodulated signal. Hopping pattern generating portions 38 and 39 produce unique hopping patterns corresponding to transmitters 1-1 to 1-K, respectively. Subcarrier extracting portions 40 and 41 extract, from the demodulated signal, components corresponding to the hopping patterns and produce the components as partial demodulated sequences, respectively.